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10/576,507	04/17/2006	Ossi Kalevo	800.0346.U1(US)	6243

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EXAMINER
CHU, RANDOLPH I

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2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE **3** MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *24 March 2010*.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-15* is/are pending in the application.

　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-15* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　a) ☒ All   b) ☐ Some * c) ☐ None of:

　　1. ☒ Certified copies of the priority documents have been received.

　　2. ☐ Certified copies of the priority documents have been received in Application No. _____.

　　3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
　Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
　Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/24/2010 has been entered.

Claim Rejections - 35 USC § 112

1.   Claims 1-5, 12, and 13 - 15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

With respect claim 1 and 12, claim define X, and Z as integer, but these can not be zero.

With respect to claims 13-15, the specification of instant application does define

coarse scaling as in analog form. But, parent claims of 13-15 define image as digital

matrix image and the specification does not describe how digital image scaling is done

by analog.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

A.   Claims 1, 6 and 12 are rejected under 35 USC 103(a) as being unpatentable

over Mutoh (US 2004/0057634).

With respect to claim 1, Mutoh teaches with use of a processor (Fig. 8)

        determining an original digital matrix image to be scaled (Fig. 8, ref label 10)

        selecting a scaling ratio R (ZZ at Fig. 17 Start) by setting X (Z1 at Fig. 17 ref

label S72), Y (ZZ at Fig. 17 ref label S73), and Z (Z1 at Fig. 17 ref label S73), wherein

the scaling ratio R corresponds approximately to an equation $Y/(Z*X)$ (Fig 15 and 17,

para [0144] and [0152]) and wherein $Y < Z$ (Fig. 17 ref label S72 and S73, para [0152]),

        coarse scaling the original matrix by using a ratio $1/X$ to create pixels of an

intermediate matrix) (Fig. 17 ref label S72 and S73, para [0152]), and

fine scaling the intermediate matrix by using a ratio Y/Z to create a final matrix

image (Fig. 17 ref label S74 and S75) (para [0150] – [0152]).

The embodiment of Fig 17 of Mutoh is a size change processing such as a

magnification processing and size reduction processing or so (para [0150]). In example

of paragraph [0152] is magnification example. It would be easy to modify the example

of Mutoh to size reduction example of same scaling factor 8.4. Then, integer size-

change portion would be 8 and Z1 would be $\frac{1}{8}$.

$$R = ZZ = \frac{1}{8.4} = Z1 \cdot \frac{ZZ}{Z1} = \frac{1}{8} \cdot \frac{1/8.4}{1/8} = \frac{1}{8} \cdot \frac{8}{8.4} = \frac{1}{X} \cdot \frac{Y}{Z}$$

However, Z is not an integer. But it is relatively easy to construct multiplication or

division by integers.

And, it would be $\frac{1}{X} \cdot \frac{Y}{Z} = \frac{1}{8} \cdot \frac{8}{8.4} = \frac{1}{8} \cdot \frac{80}{84}$.

Also, coarse scaling ($\frac{1}{8}$) is simpler than fine scaling ($\frac{80}{84}$). And after coarse

scaling, image size would be smaller, so that there requires smaller memory and

computational requirement is reduced.

At the time of the invention it would have been obvious to a person of ordinary

skill in the art to substitute non integer scale factor as a ratio of integer in the method of

Mutoh.

Accordingly, scale factors, even those that are not integers, can be easily applied

by expressing the scale factor as a ratio of integer. It is easier to construct to divide and

then multiply by integers to arrive at the required scale factor than to do calculation that scales by a non-integer amount.

With respect to claim 3, Mutoh teach that integer X is selected to be as great as possible, according to the integers maximums selected for Y and Z and the selected tscaling ratio R. (para. [0152]).

With respect to claim 5, Mutoh teach that 1/X is approximately Y/Z (para [0150] – [0152], scaling rate is close to 1, then 1/X is approximately Y/Z).

With respect to claim 6, please refer to rejection for claim 1.

With respect to claim 7, Mutoh teach in that the apparatus in integrated in connection with the image sensor of a camera (para. [0148]).

With respect to claim 12, please refer to rejection for claim 1.

B.   Claim 2 is rejected under 35 USC 103(a) as being unpatentable over Mutoh (US 2004/0057634) in view of Yamaguchi (US Patent 6,424,753)

Mutoh teaches all the limitations of claim 1 as applied above from which claim 2 respectively depend.

Mutoh does not teaches expressly that the second scaling is performed, after the first scaling, to the pixel group calculated for the intermediate matrix, without completing the calculation of the entire intermediate matrix.

Yamaguchi teaches parallel processing of scaling circuit (col. 11 lines 1-8).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to process scaling process in parallel in the method of Mutoh.

The suggestion/motivation for doing so would have been that it would speed up the processing.

Therefore, it would have been obvious to combine Yamaguchi with Mutoh to obtain the invention as specified in claim 2.

C.   Claim 4 is rejected under 35 USC 103(a) as being unpatentable over Mutoh (US 2004/0057634) in view of Kamon (US Patent 4,827,433)

Mutoh teaches all the limitations of claim 1 as applied above from which claim 4 respectively depend.

Mutoh does not teaches expressly , in the first scaling the integer X is selected to be as great as possible as the power of two.

Kamon teaches in the first scaling the integer X is selected to be as great as possible as the power of two. (col. 29 line 61- col. 30 line 7).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to process scaling process in power of two in the method of Mutoh.

The suggestion/motivation for doing so would have been that it would easier to calculate in power of two in computer calculation environment (binary).

Therefore, it would have been obvious to combine Kamon with Mutoh to obtain the invention as specified in claim 4.

D.   Claim 8 is rejected under 35 USC 103(a) as being unpatentable over Mutoh (US 2004/0057634) in view of Kim (US 2002/0060676)

Mutoh teaches all the limitations of claim 6 as applied above from which claim 8 respectively depend.

Mutoh does not teaches expressly that the coarse scaler is integrated in connection with the image sensor of a camera and the fine scaler is integrated in the host system..

Kim teaches that the scaler is integrated in connection with the image sensor of a camera and the host system. (Fig 3).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to connect scaler to sensor and host in the appartus of Mutoh.

The suggestion/motivation for doing so would have been that it would faster scaler with scaling image right out of sensor.

Therefore, it would have been obvious to combine Kim with Mutoh to obtain the invention as specified in claim 8.

E.   Claim 9 is rejected under 35 USC 103(a) as being unpatentable over Mutoh (US 2004/0057634) in view of DiNicola et al (US Patent 5,394,524).

Mutoh teaches all the limitations of claim 9 as applied above from which claim 9 respectively depend.

Mutoh does not teaches expressly that a scaler unit, in which there are separate processors (CPUs) for the coarse and fine scalers.

DiNicola et al a scaler unit, in which there are separate processors (CPUs) for the coarse and fine scalers. (col. 2 lines 13-22).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to process scaling process in separate possessor in the method of Mutoh.

The suggestion/motivation for doing so would have been that it would speed up the processing.

Therefore, it would have been obvious to combine DiNicola et al with Mutoh to obtain the invention as specified in claim 9.

F.   Claim 10 is rejected under 35 USC 103(a) as being unpatentable over Mutoh (US 2004/0057634) in view of Najand (US Patent 7,203,379).

Mutoh teaches all the limitations of claim 6 as applied above from which claim 10 respectively depend.

Mutoh does not teaches expressly the scaling function of at most 4 image-sensor lines for each colour component.

Najand teaches the scaling function of at most 4 image-sensor lines for each

colour component. (col. 11 line 64-col. 12 line 11).

At the time of the invention it would have been obvious to a person of ordinary

skill in the art to scaling 4 line at a time in the appartus of Mutoh.

The suggestion/motivation for doing so would have been that it would adjust

scaling filter depending on buffer size.

Therefore, it would have been obvious to combine Najand with Mutoh to obtain

the invention as specified in claim 10.

2.   Claim 11 is rejected under 35 USC 103(a) as being unpatentable over Mutoh (US

2004/0057634) in view of Yang et al. (US 2002/0025084).

Mutoh teaches all the limitations of claim 11 as applied above from which claim

11 respectively depend.

Mutoh does not teaches expressly the apparatus is fitted to a mobile station.

Kim teaches the apparatus is fitted to a mobile station (abstract).

At the time of the invention it would have been obvious to a person of ordinary

skill in the art to connect scaler to mobile station in the appartus of Mutoh.

The suggestion/motivation for doing so would have been make portable image

scaler.

Therefore, it would have been obvious to combine Kim with Mutoh to obtain the

invention as specified in claim 11.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RANDOLPH CHU whose telephone number is (571)270-1145. The examiner can normally be reached on Monday to Thursday from 7:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on 571-272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Randolph I Chu/

/Anand Bhatnagar/
Primary Examiner, Art Unit 2624
May 8, 2010